



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

AUG 27 2013

**ACTION MEMORANDUM**

**SUBJECT:** Request for a Ceiling Increase and Exemption from the Twelve-Month Statutory Limit for a Time-Critical Removal Action at the Southside Chattanooga Lead Site in Chattanooga, Hamilton County, Tennessee

**FROM:** Perry Gaughan *PG*  
On-Scene Coordinator

**THRU:** James W. Webster, Chief  
Emergency Response & Removal Branch

**TO:** Franklin E. Hill, Director  
Superfund Division

**I. PURPOSE**

The purpose of this Action Memorandum is to request a ceiling increase for continuation of a time-critical removal action at the Southside Chattanooga Lead Site (Site) located at Read and Mitchell Avenues, Chattanooga, Hamilton County, Tennessee. The Site continues to pose a threat to public health and the environment that meets the National Oil and Hazardous Substances Pollution Contingency Plan (National Contingency Plan or NCP) Section 300.415(b)(2) criteria for removal actions. An Action Memorandum was drafted and signed on August 29, 2012, to begin removal actions to mitigate areas of lead contaminated soil in a six block area near downtown Chattanooga. Additional funds and an exemption from the twelve-month statutory time limit are necessary to address additional contamination found in residential lawns along Read and Mitchell Avenues. This action has been taken to insure that children in the neighborhood are not exposed to elevated concentrations of lead in contaminated soils. The current removal action ceiling is \$2,640,000. The proposed increase of \$996,000 will raise the total project ceiling to \$3,636,000 of which \$3,150,000 is expected to come from the Regional Advice of Allowance.

**II. SITE CONDITIONS AND BACKGROUND**

Site ID: B4J4  
Type: Time-Critical

**A. Site Description**

**1. Removal Site Evaluation**

The Tennessee Department of Environment and Conservation (TDEC) requested Region 4 Emergency Response and Removal Branch's (ERRB) assistance after discovering that the lawns of one residence and potentially several more were contaminated with lead along Read Avenue, near downtown Chattanooga. Initially, one resident along Read

Avenue was taken to the emergency room with severe fatigue and abdominal pain. Emergency room blood work indicated lead levels approaching 20 micrograms per deciliter (ug/dl) which alerted TDEC to conduct follow-up assessments. TDEC requested assistance from ERRB to characterize the soil around the home, and an initial assessment was conducted in which three homes were assessed, as well as a public park and playground area at 1700 Mitchell Avenue. Ten samples were collected, and two of those samples showed elevated lead levels exceeding 400 parts per million (ppm).

Subsequent assessments along Read, Mitchell and Carr Avenues were conducted by the U.S. Environmental Protection Agency Region 4 ERRB in January and April 2012. Of the 81 homes (162 front and back yards) assessed near downtown Chattanooga, 68 lawns (42%) were found to contain lead levels exceeding 400 ppm. Lead levels ranged from 400 – 4,000 ppm. The 4,000 ppm sample was collected from a lawn at 1624 Read Avenue, and the sample contained very dark fine material, most likely a high concentration of bag-house dust. In addition, the Battle Academy Elementary School, which neighbors the Site, was sampled in mid June 2012. A 20' by 20' grid was laid over the school property and 140 grids were screened using X-ray fluorescence (XRF) spectroscopy. No significant lead contamination was found, and all lead levels were below 55 ppm. Residents were notified of the sampling results from their property on June 26, 2012.

## **2. Physical Location**

The Southside Chattanooga Lead Site is located along Read, Mitchell and Carr Avenues south of Main Street in Chattanooga, Hamilton County, Tennessee (Latitude: 35.0456, Longitude: -85.3097).

## **3. Site Characteristics**

The Site is a residential area encompassed by Read, Mitchell and Carr Avenues south of Main Street in Chattanooga. This area is a blend of young, middle income couples who are renovating older constructed homes and low to middle income retired couples who have resided in the area for 20 plus years. The vast majority of homes were built in the early 1900's.

## **4. Release or Threatened Release Into the Environment of a Hazardous Substance, Pollutant or Contaminant**

Lead is a hazardous substance, as listed in Title 40 of the Code of Federal Regulations (CFR) 302.4, as referred to in Section 101 (14) of CERCLA, as amended. The presence of lead at elevated levels in soil at the Site constitutes a release or threatened release of hazardous substances into the environment.

## **5. National Priorities List Status**

The Site is currently not on the NPL.

## **6. Maps, Pictures, and Other Graphic Representations**

Maps, pictures and other graphics can be made available upon request.

## **B. Other Actions to Date**

### **1. Previous Actions**

Previous Site actions were limited to the initial assessments conducted by TDEC and the EPA during the fall of 2011 and the follow-up Removal Site Evaluation (RSE) conducted by the EPA ERRB Region 4 in April 2012. Assessment activities by TDEC and the EPA Region 4, in conjunction with the EPA Science and Ecological Support Division (SESD), identified 52 properties along Read, Mitchell and Carr Avenues which warranted lead contaminated soil removal.

### **2. Current Actions**

On October 1, 2012, removal actions began at the Site with the excavation of contaminated soils from several homes along the 1600 and 1700 blocks of Read and Mitchell Avenues. In this manner, 56 residential lawn cleanups have been completed to date and the remaining homes to be addressed are along the 1600 block of Mitchell Avenue and a few homes along Carr Avenue. During the current removal action, the majority of contaminated soils appear to be fill material placed between closely adjacent homes and along older home foundations.

Over the last 10 months, the EPA and its technical contractors, the Superfund Technical Assessment and Response Team (START), continue to find significantly elevated lead levels in numerous residential yards. Levels as high as 22,000 ppm lead were found in a back yard of one residence along Mitchell Avenue where children were known to play. In addition, levels exceeding 14,000 ppm were found in two dirt mounds of a vacant lot along Read Avenue where children were also known to have been playing. Levels exceeding 7,000 ppm lead were found in a vegetable garden along Read Avenue which was known to be contaminated from assessment findings.

To date, approximately 3,000 cubic yards of lead-contaminated soils have been properly disposed of at a Subtitle D landfill in Cleveland County, Tennessee. Throughout the current removal action, TDEC and the Tennessee Department of Health have been instrumental in assisting the EPA during three public meetings held in June, September and November 2012. TDEC's Troy Keith has closely monitored the progress of the removal action.

## **C. State and Local Authorities Roles**

### **1. State and Local Actions to Date**

The Hamilton County Health Department and TDEC responded initially after being informed of the residential contamination. TDEC has been actively involved throughout the assessment and removal phase of this project.

### **3. Potential for Continued State and Local Response**

The On-Scene Coordinator (OSC) anticipates that TDEC's Superfund Division will have a continued role in monitoring site removal activities as well as assisting with other anticipated lead assessments throughout the Chattanooga and Hamilton County area.

## **III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES**

### **A. Threats to Public Health or Welfare**

Lead present in on-site surface and subsurface soils pose the following threats to public health or welfare as listed in Section 300.415 (b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP):

***Section 300.415 (b)(2)(i) Actual or potential exposure to nearby human populations, or the food chain from hazardous substances pollutants or contaminants;*** Current removal actions have found lead levels as high as 22,000 ppm in known child play areas as well as 7,000 ppm lead in residential vegetable gardens. Sampling conducted by the EPA during the RSE confirmed elevated lead levels at several residential lots ranging from 400 to 4,500 ppm. The Removal Management Level (RML) for lead for residential exposure scenarios is as low as 400 ppm when children are present. Children, as well as adults, are at risk to come in contact with the contaminants via windborne dust, inadvertent ingestion of contaminated soil and direct contact with the contaminated surface soils. The EPA recently became aware of one family in which three children have reported blood lead levels approaching 5 ug/dl.

***Section 300.415 (b)(2)(iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate;*** Current removal actions have found elevated lead levels in numerous lawns along Read, Mitchell and Carr Avenue. XRF levels and laboratory data from the removal assessment activities revealed that elevated lead levels are present at or near the surface in several lawns throughout the Site creating a potential for migration to off-site locations.

***Section 300.415 (b)(2)(v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;*** If a removal action is not implemented, there is a potential for weather conditions, such as heavy rain events, to cause off-site migration of lead contamination.

***Section 300.415 (b)(2)(vii) The availability of other appropriate federal or state response mechanisms to respond to the release;*** At the request of TDEC, the EPA has collected sufficient data to proceed with a removal action. It is not anticipated that TDEC or any other state or local agency will be able to carry out the necessary removal action at the Site.

## **IV. ENDANGERMENT DETERMINATION**

Actual or threatened releases of hazardous substances and/or pollutants from this Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health welfare, or the environment.

## **V. EXEMPTION FROM STATUTORY LIMITS**

The Site continues to meet the criteria for an emergency exemption from statutory limits pursuant to Section 104(c)(1)(c) of CERCLA, as amended by SARA. The exemption of the \$2 million limit was approved in the attached Action Memorandum. This Action Memorandum requests an exemption of the twelve-month statutory limit.

## **VI. PROPOSED ACTION AND ESTIMATED COST**

### **A. Proposed Action**

#### **1. Proposed Action Description**

The EPA's continued removal actions include the following:

- a. characterize the extent of lead contamination in the lawn via X-ray fluorescence (XRF) spectroscopy;
- b. remove grass, shrubs and trees in known areas of contamination;
- c. remove contaminated surficial soil in the area until subsurface soil concentration levels are shown to be below 400 ppm lead via XRF (field confirmatory sampling); place notification barrier, as needed, on properties where lead contamination remains in excess of 400 ppm below two feet;
- d. replace excavated soil areas with clean topsoil and sod as necessary;
- e. replace shrubs and/or trees to the home owners' specifications but not to exceed previous property value (as dictated in CERCLA); and
- f. replace fencing and walkway stone as necessary.

#### **2. Contribution to Remedial Performance**

The proposed removal action is warranted to address the threats discussed in Section III that meet the NCP Section 300.415(b)(2) removal criteria. The removal action proposed in this Action Memorandum would be consistent with any potential remedial action.

#### **3. Description of Alternative Technologies**

The OSC has tasked the EPA's technical contractors with a literature search and trials of alternative lead fixation technologies. Lead fixation trials have been inconclusive thus far to substantiate a field trial or study. Activities such as recycling and/or reuse are not conducive to the current site conditions, since the contaminated fill material is inter-mixed with native soils and clay. Other alternative technologies will be evaluated as appropriate and practicable, considering the scope of this removal action.

#### **4. Engineering Evaluation/Cost Analysis (EE/CA)**

This proposed action is time-critical and does not require an EE/CA.

#### **5. Applicable or Relevant and Appropriate Requirements (ARAR)**

In accordance with the NCP at 40 C.F.R. § 300.415(j), on-site removal actions conducted under the CERCLA are required to attain applicable or relevant and appropriate



requirements (ARARs) to the extent practicable considering the exigencies of the situation or provide grounds for invoking a CERCLA waiver under Section 121(d)(4). In determining whether compliance with ARARs is practicable, the lead agency may consider appropriate factors, including (1) the urgency of the situation; and (2) scope of the removal action to be conducted. Additionally, under 40 C.F.R. 300.405(g)(3), other advisories, criteria, or guidance may also be considered (so-called To-Be-Considered or TBC) when conducting the removal action.

Under CERCLA Section 121(e)(1), federal, state or local permits are not required for the portion of any removal or remedial action conducted entirely on-site as defined in 40 C.F.R. § 300.5. See also 40 C.F.R. §§ 300.400(e)(1) & (2). On-site means the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action. On-site response actions must comply, to the extent practicable, with substantive but not administrative requirements of ARARs. Off-site activities such as transportation and disposal of wastes are required to comply with all applicable requirements, including the administrative portions.

As provided in CERCLA Section 121(d)(3) and the Off-site Rule at 40 C.F.R. 300.440 *et seq.* the off-site transfer of any hazardous substance, pollutant or contaminant generated during the response action will be sent to a treatment, storage or disposal facility that is in compliance with applicable federal and state laws and has been approved by the EPA for acceptance of CERCLA waste.

The EPA OSC is in communication with the State to develop an approach consistent with all ARARs as practicable. TDEC has clearly stated Tennessee's disposal requirements for lead contaminated soils and advised the OSC accordingly.

## 6. Project Schedule

Response actions at the Site will continue upon approval of this Action Memorandum. Without any unexpected delays, all actions under this phase of the response have been estimated to be completed within 13 months of mobilization.

## B. Estimated Costs

An independent government cost estimate of the removal action project ceiling was prepared using rates from the Emergency and Rapid Response Services (ERRS) contract and the START contract.

<b>Extramural Costs</b>	<b>Current Ceiling</b>	<b>Proposed Increase</b>	<b>Revised Ceiling</b>
<b>Regional Allowance Costs</b>			
ERRS Contractor	\$2,400,000	\$ 750,000	\$3,150,000
<b>Non Regional Allowance Costs</b>			
START Contractor	\$ 240,000	\$ 80,000	\$ 320,000
Subtotal, Extramural Costs	\$2,640,000	\$ 830,000	\$3,470,000
20% Contingency		\$ 166,000	\$ 166,000
<b>TOTAL SITE CEILING</b>	<b>\$2,640,000</b>	<b>\$ 996,000</b>	<b>\$3,636,000</b>

**VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN**

If this response action is significantly delayed or not taken, ongoing migration into the environment will continue, increasing the possibility of exposure to the public, groundwater and environment.

**VIII. OUTSTANDING POLICY ISSUES**

No outstanding policy issues have been identified at this time.

**IX. ENFORCEMENT**

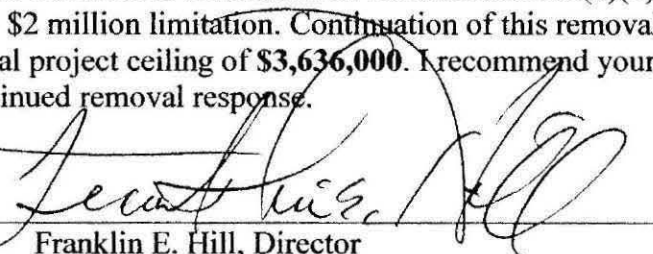
Potentially Responsible Parties (PRP) have been identified and contacted. Notices of Federal Interest have been issued, and Notice of Liability letters have been sent to PRPs. Enforcement activities are ongoing and will occur parallel with ongoing removal activities, which will continue due to the urgency of the situation. Transition to an enforcement-lead removal can take place, as appropriate, should enforcement activities prove successful. See the attached Enforcement Addendum for status of enforcement activities taken at this Site.

**X. RECOMMENDATION**

This decision document represents the selected removal action for the Southside Chattanooga Lead Site, located in Chattanooga, Hamilton County, Tennessee, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This document is based on the Administrative Record for the Site.

Conditions at the Site continue to meet the NCP Section 300.415(b)(2) criteria for a removal action and exemption from the \$2 million limitation. Continuation of this removal action is anticipated to be fund-lead with a total project ceiling of **\$3,636,000**. I recommend your approval for the proposed action to allow continued removal response.

APPROVED: \_\_\_\_\_

  
Franklin E. Hill, Director  
Superfund Division

Date: 8/27/13

DISAPPROVED: \_\_\_\_\_

Franklin E. Hill, Director  
Superfund Division

Date: \_\_\_\_\_

Attachment: Action Memorandum dated August 29, 2012